



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

POSITIVE RECALL

EFFECTIVE 2/1/11 AUTH SPH

RELEASED _____ DATE _____

D5808-1

Job Sheet 208088

Part No: D5808-1

Job Qty: 6 pcs

Part Name: Long Rim



Part Weight: 0 lbs

Job Created: 3/10/20

Due Date: 3/24/20

Type: Stock

Status: New

Priority: Medium

Job Tracking No:

Created By: Jennifer Renwick

Description:

Note: URF 20-522 DWG D5808 Rev.A IPP Rev. A 2020.01.30 New issue DP Verify DD

Ship Via:

U/R



Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup Hrs	Run Hrs	Workcenter / Supplier	Lead Time	
110	Large Fab - Welded Assy-1	6 pcs	3/24/20	0.00	0.60		Large Fab - 1		<i>Note</i>
							Large Fab - 10		
							Large Fab - 2		
							Large Fab - 3		
							Large Fab - 4		
							Large Fab - 5		
							Large Fab - 6		
							Large Fab - 7		
							Large Fab - 8		
							Large Fab - 9		
							Large Fab - 11 (Various)		
							Large Fab - 12		
120	QC 5	6 pcs	3/24/20	0.00	0.00		QC 5 - 10		<i>DAS 24 9-89</i>
							QC 5 - 12		
							QC 5 - 17		
							QC 5 - 18		
							QC 5 - 19		
							QC 5 - 22		
							QC 5 - 24		
							QC 5 - 3		
							QC 5 - 43		
							QC 5 - 49		
							QC 5 - 51		
							QC 5 - 58		
							QC 5 - 68		
							QC 5 - 9		
							QC 5 - 50		
							QC 5 - 30		
							QC 5 - 40		
							QC 5 - 61		
							QC 5 - 81		



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
CANADA
TEL: 1 613 632-5200
Email: sales@dartaero.com
www.dartaerospace.com

Container No: S262722



Part: D5808 - 1

Job No: 208088

Serial No/Batch: S262722

Revision: A

Inspector:

Exp Date:

Instructions:

Date: 03/11/20

Plex 3/10/20 3:35 PM Dart.Renwick.Jennife

3/10/2020

[Dart Hawkesbury] Job Sheet - Renwick, Jennifer

130 Packaging 3-1 - Stock - B4B 6 pcs

3/24/20

0.00 0.00

Packaging 3 - 1 - B4B

Packaging 3 - 2 - B4B

Packaging 3 - 3 - B4B

Packaging 3 - 4 - B4B

Packaging 3 - 5 - B4B

Packaging 3 - 6 - B4B

Packaging 3 - 7 - B4B

Packaging 3 - 8 - B4B

Packaging 3 - 9 - B4B

Packaging 3 - 10 - B4B

Packaging 3 - 11 - B4B

Packaging 3 - 12 - B4B

Packaging 3 - 13 - B4B

Packaging 3 - 14 - B4B

Packaging 3 - 15 - B4B

Packaging 3 - 16 - B4B

Packaging 3 - 17 - B4B

Packaging 3 - 18 - B4B

Packaging 3 - 19 - B4B

Packaging 3 - 20 - B4B

Packaging 3 - 21 - B4B

Packaging 3 - 22 - B4B

Packaging 3 - 23 - B4B

Packaging 3 - 24 - B4B

Packaging 3 - 25 - B4B

Packaging 3 - 26 - B4B

Packaging 3 - 27 - B4B

Packaging 3 - 28 - B4B

Packaging 3 - 29 - B4B

Packaging 3 - 30 - B4B

Packaging 3 - 31 - B4B

Packaging 3 - 32 - B4B

Packaging 3 - 33 - B4B

Packaging 3 - 34 - B4B

Packaging 3 - 35 - B4B

Packaging 3 - 36 - B4B

Packaging 3 - 37 - B4B

140 QC 21 - SA

6 pcs

3/24/20

0.00 0.00

QC 21 - SA - 21

QC 21 - SA - 70

QC 21 - SA - 53

QC 21

21

0.00

MAR 12 2020

Part Op 110 - Fabricate per Drwg - 1-Cut as per DWG. 2-Deburr.

Descriptions: 120 - QC5- Inspect part completeness to step on W/O

130 - Identify as per dwg & Stock Location: *W/A 004*

140 - QC21- Final Inspection - Work Order Release

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
M4130NTS0.750W.035	4130 Square Tube 0.750 X 0.035W	46.6500 ft (7.775 ea)	110-Large Fab - Welded Assy-1	<i>\$ 250.794</i>

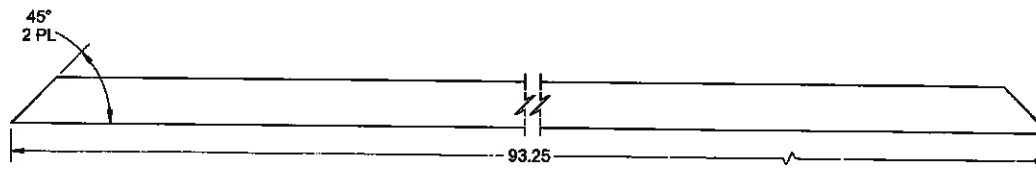
Job Allocations

Operation	Component Part	Required	Inventory	Allocated
110-Large Fab - Welded Assy-1	M4130NTS0.750W.035	47	371	0

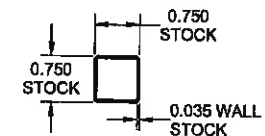
Part Specifications

Specifications could not be found.

Plex 3/10/20 3:35 PM Dart.Renwick.Jennifer



D5808-1 LONG RIM



SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 208088

UNDER REVIEW

URF 2020-522 20.02.14 (NO)

NOTES:

- 1) MATERIAL: AISI 4130N STEEL SQUARE TUBING, 3/4 X 0.035 WALL
PER MIL-T-8738 OR AMS 6371/6380/6381/6382/6373/6374
REF DART SPEC M4130N-TS0.750W.035
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 2.54 lbs

RELEASED
2020 FEB 18 *NO*

APPROVED

DESIGN	ZF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	REV. A
DRAWN	ZF		
CHECKED	KPT	DRAWING NO.	SHEET 4 OF 6
MFG. APPR.	DD	D5808	SCALE
APPROVED	NO	TITLE	NTS
DE APPR.	CP	<i>q</i> LONG BASKET BODY	
DATE	20.01.20	<small>COPYRIGHT © 2008 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS UNDERSTANDING THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	

INSPECTION SHEET

Rev	Date	Change	Revised by	Approved
A	14.07.31	New Issue	KJ	



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER POHB045594



Supplier: FAC001-VU
Factory Steel
14020 Oakland Ave.
Detroit, MI 48203 USA
Phone: 313 883 6300
Fax: 313 883 4883

PO No: POHB045594

PO Date: 1/16/20

Due Date: 2/4/20

**Purchase Order
Revision:**

Revision Date:

Ship-To Contact: Phone:

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Via: Ground

Pymt Terms: Net 30

Freight Terms:

Special Comments:

JAN 16 2020

Items

Line Item	Job	Part	Drawing	Supplier Part No	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (USD)	Extended Price
1		M4130NTS0.750W.035			4130 Square Tube 0.750 X 0.035W : MATERIAL: AISI 4130N STEEL SQUARE TUBING PER ONE OF THE FOLLOWING SPEC'S: MIL-T-6736, AMS 6371, 6390, 6361, 6362, 6373 OR 6374	Firmed	-	2/4/20	600 ft	0 ft	600 ft	\$7.25/ft	\$4,350.00
2		M4130NTS1.000W.065			4130 Square Tube 1.000" X 1.000" X 0.065"W : MATERIAL: AISI 4130N STEEL SQUARE TUBING PER ONE OF THE FOLLOWING SPEC'S: MIL-T-6736, AMS 6371, 6390, 6361, 6362, 6373 OR 6374	Firmed	-	2/4/20	160 ft	0 ft	160 ft	\$11.70/ft	\$1,872.00

609
ft
600

171 ft
600

Grand Total: \$6,222.00

Plex 1/16/20 11:38 AM Dart.Lavoie.Chantal



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER
POHB045594



Order Notes

Procurement Quality Clauses

A005 right of entry

A012 chemical and physical test report

A016 personnel qualification

A017 raw material identification (as applicable). No Raw Metals from China or Soviet Bloc Countries. (DFARS)

A026 certification of material conformance

A041 quality management system

A042 dart notification by supplier

A043 retention of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program.

A049 supplier awareness.

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Plex 1/16/20 11:38 AM Dart.Lavoie.Chantal

PACKING LIST

No. 67371

PG 1 OF 1

PL	FACTORY STEEL & METAL SUPPLY 14020 OAKLAND AVENUE DETROIT, MI 48203 (313)883-6300 PHONE (313)883-4883 FAX		CUSTOMER PO POHB045594 CUSTOMER JOB		BUYER CHANTEL LAVOIE Tel (613) 632-3336 Fax (613) 632-4443		SHIP DATE 01/21/2020	
			SALES ORDER 60306		ORDER DATE 01/16/2020		SHIP VIA ****TRUCK****	
	SOLD TO DART AEROSPACE 1270 ABERDEEN STREET HAWKESBURY, ON K6A 1K7		SHIP TO DART AEROSPACE 1270 ABERDEEN STREET HAWKESBURY, ON K6A 1K7		SALES REP MICK HALON		RESALE # 59-2958719	
					SHIP INST CALL WHEN READY		CARRIER TRUCK	
					PRO#		BLIND Y/N N	
					TERMS NET 30 DAYS		FOB DETROIT	

LINE	QUANTITY	DESCRIPTION	WIDTH	LENGTH	WEIGHT
1	609.917 FT	4130N CD SMLSS SQ TUBE 3/4" X .035W Tag Mill Ref # Heat 153513 023679 616506	Pcs Length 26 20'/24' RL	20'/24' RL Feet 609.917	207.554 Weight 207.554
2	171.333 FT	4130N CD SMLSS SQ TUBE 1" X .065W Tag Mill Ref # Heat 153514 072143 072067859	Pcs Length 7 22'/23' RL	22'/23' RL Feet 171.333	141.606 Weight 141.606
3	1 PCS	PACKING CHARGES MTRS (CIRCLE) FAX SHIPMENT INVOICE ALL DATE: _____ INITIAL: _____			
TOTAL WT 349 LBS					

RECEIVED BY - SIGNATURE	RECEIVED BY - PRINTED NAME	DATE RECEIVED

LIVE 1
M4130NTS0.750W.035

S250794

616506



DESIGN JH	DRAWN BY JH	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED JH	APPROVED JH	DRAWING NO. M4130N-TS	REV. A SHEET 1 OF 1
DATE 05.02.09		TITLE 4130N SQUARE TUBING	SCALE NTS
A	05.02.09	NEW ISSUE	

PURCHASE MATERIAL:

AISI4130N STEEL SQUARE TUBING PER ONE OF
THE FOLLOWING SPEC'S: MIL-T-6736, AMS 6371,
6360, 6361, 6362, 6373 OR 6374

DAS
82
9-85

PART NUMBER:

M4130N-TS | A.AAA | W | .TTT |

WHERE A.AAA = WIDTH IN INCHES
TTT = WALL THICKNESS IN INCHES

EXAMPLE: 0.50" X 0.035" WALL = M4130N-TS0.500W.035

RELEASED
JH

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PLYMOUTH TUBE CO.

1200 East 12th Street, Streator, Illinois 61361
Phone: (815) 673-1515 Fax: (815) 672-7523

TRUST YOUR SOURCE ACCEPT NO SUBSTITUTIONS



PRODUCT CERTIFICATION

SALES ORDER - LINE / RLS

175329 - 1 / 0

SHIP TO

Factory Steel & Metal Supply C
14020 Oakland Avenue
Detroit, MI 48203
USA

WORK ORDER 023679

PCS/HEAT 0

HEAT NUMBER 616506

MELT SOURCE Benteler Steel & Tube-Germany

CUSTOMER P.O. 3887	CUSTOMER PART SQ-N34035	QUANTITY	LADING NO	CERT ID / REV /	CERT DATE								
PART DESCRIPTION SHSQ0750035J300 ***** Square OD ***** Side1: 0.7500 Max:0.7600 Min:0.7400 Side2: 0.7500 Max:0.7600 Min:0.7400 Wall: 0.0350 Max:0.0380 Min:0.0320 Length: 12.00/26.00 Spec: MIL-T 6736B Seamless Aircraft Grade: 4130 Anneal: Cond N													
CERTIFICATION REQUIREMENTS FAR BAA (FAR 52.225-1 Buy America Act Supplies), DFARS 252.225-7001 By America Act & Bal. of Payments Program FAR TAA (FAR 52.225-5 Trade Agreements)(Paragraph 1,3,4,5)This material was Edy Current tested and conforms to the requirements of ASTM A-450.The Grain size is determined and reported by the raw material supplier in accordance to ASTM E-112. This raw material was magnetic particle inspected by the raw material supplier in accordance to AMS 2640J and/or ASTM E-1444, and rated as Frequency, and Severity to AMS 2301, latest revision. Yield is determined by using the 0.2% offset method. Additional Specifications - AMS-T 6736B, 6360P & 6371L. Material produced in accordance to ASTM A-519-17 and MIL-T 6736B.This material meets Plymouth ProMojo specifications. Jominy results: J(5/16")=45 J(8/16")=38													
Chemical Analysis													
C	Mn	P	S	Si	Al	Cr	Mo	Ni	Pb	Cu	V	Ti	Sn
.310	.55	.011	.002	.230	.036	.97	.18	.12	.001	.16	.002	.002	.010
Physical Properties													
Freq.	Severity	Grain Size											
.020	.015	9											
Mechanical Properties													
TEST	UNITS	TESTS	HIGH	LOW	AVERAGE	STD-DEV							
Tensile	Psi	6	126660	125480	126065	482							
Yield	Psi	6	120930	119880	120387	374							
Elongation	%	6	21	20	20	1							
Rockwell C	Rc	6	25	25	25	0							
TEST	RESULT												
Decarb/OD	Pass												
Total ID/OD decarb	Pass												

I certify that the results are a true and correct copy of the records prepared and maintained by Plymouth Tube Company, Streator in compliance with the requirements of the cited specification. Chemistry is as reported by the Steel supplier. This test report cannot be reproduced or distributed except in full without the written permission of Plymouth Tube.

Janine Drossell
Quality Assurance

①



PLYMOUTH TUBE CO.

1209 East 12th Street, Streator, Illinois 61354
Phone: (815) 873-1515 Fax: (815) 872-7343

TRUST YOUR SOURCE. ACCEPT NO SUBSTITUTIONS.



PRODUCT CERTIFICATION

SALES ORDER - LINE / RLS
175329 - 1 / 0

WORK ORDER 023678 PCS/HEAT 0
HEAT NUMBER 616506
MELT SOURCE Bunker Steel & Tube-Germany

SHIP TO

Factory Steel & Metal Supply C
14020 Oakland Avenue
Detroit, MI 48203
USA

CUSTOMER P.O.	CUSTOMER PART	QUANTITY	LADING NO	CERT ID / REV	CERT DATE
3887	SQ-N34035			/	

PART DESCRIPTION	SHSQ0750035J300
------------------	-----------------

Additional Specification(s)

TEST	UNITS	TESTS	HIGH	LOW	AVERAGE	STD-DEV
Brinell	Brinell	6	253	253	253	0

This test report data is for the heat Chemistry Stated above.

The material in this test report is:

- 1) Drawn in the USA
- 2) Free from Polybrominated Biphenyls (PBB), Polybrominated Diphenyl Ethers (PBDE), and Mercury contamination.
- 3) NAFTA compliant.

End of Certification

I certify that the results are a true and correct copy of the records prepared and maintained by Plymouth Tube Company, Streator in compliance with the requirements of the cited specification. Chemistry is as reported by the Steel supplier. This test report cannot be reproduced or distributed except in full without the written permission of Plymouth Tube.

Janet D. Smith
Quality Assurance

LIWE (

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M4130N TS 0.750W .035 PO / BATCH NO.: POM045594
 DATE: JAN 27 2020 5250794

MATERIAL CERT REC'D: YES
 QUANTITY RECEIVED: 609 FT
 QUANTITY INSPECTED: 609 FT
 QUANTITY REJECTED: 0

THICKNESS ORDERED: .750 W .035
 THICKNESS RECEIVED: .750 W .035
 SHEET SIZE ORDERED: —
 SHEET SIZE RECEIVED: —

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y <input checked="" type="checkbox"/> N	
CORRECT FINISH	<input checked="" type="checkbox"/> N	
CORROSION	Y <input checked="" type="checkbox"/> N	
CORRECT GRAIN DIRECTION	<input checked="" type="checkbox"/> N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="checkbox"/> N	MIL-T-6736
CORRECT THICKNESS	<input checked="" type="checkbox"/> N	
PHOTO REQUIRED	Y <input checked="" type="checkbox"/> N	
CORRECT REF # TO LINK CERT	<input checked="" type="checkbox"/> N	616506
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="checkbox"/> N	
CORRECT M# ON THE MATERIAL	<input checked="" type="checkbox"/> N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y <input checked="" type="checkbox"/> N	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y <input checked="" type="checkbox"/> N	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION		ENGINEERING SIGNOFF (if required)	
INSPECTED BY: <u>DAS</u>	SIGNED OFF BY: _____		
DATE: <u>JAN 27 2020</u>	DATE: _____		

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

Entered: _____ Date: _____



WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____		DISPOSITION		DEPARTMENT/PROCESS			
		Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/>		Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Large Fab <input type="checkbox"/>	Cross tube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/>	Eng. (Non-AW) <input type="checkbox"/> Prod. Eng. Coord. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/>	Engineering <input type="checkbox"/> Water Jet <input type="checkbox"/> Supplier <input type="checkbox"/> Quality <input type="checkbox"/>
Date :		Sequence #:		QTY Affected :			MRB (QSI042)
Description Work Order Deviation				Disposition			Completed By Lead hand / Supervisor QC / QA Coordinator
Root Cause		FAULT CATEGORY					
Operator <input type="checkbox"/> Manufacturing Process <input type="checkbox"/> Equip/Tooling <input type="checkbox"/> Handling/Presservation <input type="checkbox"/> Material <input type="checkbox"/> Product Improvement <input type="checkbox"/> Process Improvement <input type="checkbox"/> Human Factors <input type="checkbox"/>		<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Bending <input type="checkbox"/> Crushing <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave/Twist <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Mislabeled	<input type="checkbox"/> Contamination <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Incomplete/Unclear Instructions <input type="checkbox"/> Drill Holes <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain Direction <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Off-set/Set-up	<input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Outside Tolerance <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Misread		
		Other/Details:					